INPUT

Proposal

ASSESSING TRENDS IN THE SYSTEM BUILDING PROCESS OF SELECTED VENDORS

Submitted to

ANDERSEN CONSULTING

April 23, 1993

Submitted by

INPUT

The Atrium at Glenpointe
400 Frank W. Burr Boulevard
Teaneck, New Jersey 07666

201-801-0050
Fax: 201-801-0441

ASSESSING TRENDS IN THE SYSTEM BUILDING PROCESS OF SELECTED VENDORS

I. INPUT'S Understanding

Andersen Consulting is considering making changes to the way in which its software solutions are created and delivered. To assist in this process Andersen wishes to understand what other vendors are doing or planning to do in this area. Andersen plans on using a third party research firm to perform this information gathering and analysis and INPUT has been invited to submit this proposal on how would perform the work.

II. Scope

Based on INPUT's current understanding of the project, the following questions need to be addressed. Note: Each of these issues has a "past", "present" and "future" component, that is, what changes are being made now (and why) and what changes are being considered and what are the factors affecting the decision.

- How is the organization and infrastructure being changed?
- How are the types and skills of the people involved changing?
- What is the driving philosophy behind changes (e.g., reusability, quality)?
- What are the processes and tools involved, including (but not limited to) methodology, design and implementation tools, other technology (e.g., architecture, object oriented development, languages)?
- What types of investment are involved (e.g., people, dollars)?
- What type of organizational structure is being used?
- What is the time horizon for change?
- What are the goals and objectives that are expected from the changes? Examples:
  - Quantifiable versus qualitative benefits
  - Technical versus business benefits

Note: This list may be modified after further consultation with Andersen.

III. Conduct of the Work

INPUT intends to rely primarily with interviews with targeted companies. There will be initial telephone interviews that will be used to collect information as well as to identify people with whom it would be profitable to have a face-to-face interview.

Andersen has indicated that the following firms should be targeted:

- IBM (components)
- DEC
- EDS
- Cap Gemini
- Microsoft
- Oracle

INPUT agrees that this list is a useful point of departure, although INPUT suggests, for example, that HP be considered in place of Cap Gemini. In addition, some of the work of smaller firms, for example, DACOM, that might also be assessed.

Another aspect that INPUT believes should be considered is the type of activity being supported. Examples include:

- Changes in the system building process in support of a firm's own software products.
- System building processes or tools that will be offered for resale as a product or service.
- Processes or tools used to support delivery of solutions to customers (SI)

These activities overlap to a degree, but should probably be considered separately also. The attached exhibit shows INPUT's view as to where the focus of potential system building changes are within the initially-targeted companies.

For purposes of time and cost estimation, INPUT is assuming that 10-12 companies or company units will be targeted for investigation and analysis.

INPUT recommends that the project begin with a worksession in Chicago between INPUT and Andersen personnel to develop a better understanding of INPUT's role and how the information will be used. The scope, related interview guide and vendor targets will also be discussed.

It is INPUT's understanding that Andersen wishes to have this information primarily to help set its own direction. Andersen is more interested in a thorough understanding of industry practices, experience and the rationale for direction rather than competitive intelligence.

INPUT believes that much more information will be gained if individuals and companies interviewed can be assured that neither individual responses or company practices will be identified with a particular respondent or company (unless of course the respondent has no objection or information has already been made public). INPUT recommends this course of action because in this type of subject there is a wide band of non-proprietary, but non-yet-public, information. Individual respondents are often unsure where this line lies and take a conservative position unless assured that their name will not be quoted.

Interview targets will be knowledgeable people within the software development, software R & D organizations or software planning. All things being equal, targets will be the head of such organizations; however, somewhat less senior people are often very well informed and easier to get to. Given the time frame of this study, this could be an important consideration.

For the most part INPUT does not believe that groups developing systems for internal use ("CIOs") will be primary targets. Oracle is a partial exception.

Interviews will be conducted by senior INPUT staff.

INPUT will supplement the direct research with information gained from third parties and other contacts.

Because of the nature of the project and the relatively short period of time for its completion, INPUT is not planning formal status reviews. INPUT will have weekly telephone status reports with an appropriate Andersen project manager.

INPUT will prepare a foil-type presentation following an outline agreed to with Andersen and make the presentation to Andersen staff in Chicago. This will be followed by a formal written report.

IV. Schedule

INPUT understands that Andersen needs the results of this study for inclusion in a larger piece of work that is due at the end of June. INPUT is assuming that work will be able to start in the first week in May and will be finished in mid-June. The major variable in the schedule is the physical availability of target company staff for interviewing.

Week	Activity
1	Worksession with Andersen
2-4	Telephone interviews
3-5	On-site interviews
6	Analysis and presentation preparation
7	Presentation
8	Report prepared

V. Qualifications

The project will be directed by Thomas O'Flaherty, Vice President. He is very well qualified to lead this project for the following reasons:

- He has directed a number of projects in the last several years in the area of software engineering and applications development technology. See attached summary list.
- Mr. O'Flaherty is recognized as being knowledgeable in this field and besides being a conference speaker is currently the Consulting Editor to the journal, Software Engineering.
- Mr. O'Flaherty has recently led studies at Andersen on software products, software package modification and application management.

Also on the project team will be Dennis Wayson, Vice President, and John McGann, Principle Consultant, both of who have had extensive experience in application development issues. On-site interviews will be conducted by Mr. O'Flaherty and Mr. Wayson.

Biographies are attached.

VI. Fee

INPUT's professional fee for this study will be $60,000. One half of this amount ($30,000) is due and payable at the time of project authorization. The remainder plus expenses is due at the submission of the final report. Out-of-pocket expenses (primarily travel, production and telephone charges) are not expected to exceed $7,000.

AUTHORIZATION

To authorize the project as specified, please sign and return one copy of this proposal along with the initial fee. Upon acceptance by INPUT, a countersigned copy of the proposal will be returned to Andersen.

AUTHORIZED BY:	ACCEPTED BY:
Andersen Consulting	**INPUT**
Name _____	Name _____
Title _____	Title _____
Date _____	Date _____

Exhibit:

PRIMARY FOCUS OF CHANGES IN THE SYSTEM BUILDING PROCESS: SELECTED VENDORS

	Focus of Changes		
Vendor	Changes in Developing Own Software Products	Processes and/or Tools for Resale	Processes and/or Tools to Support SI Delivery
IBM (Components)	x	x	x
DEC		x	x
EDS			x
CGS			x
Microsoft	x		x
Oracle	x	x	x

JULY 1993

Assessing Trends in the System Building Process of Selected Vendors

Prepared for:

Andersen Consulting

By:

INPUT

INPUT

The Atrium at Glenpointe, 400 Frank W. Burr Boulevard, Teaneck, NJ 07666 201-801-0050

Purpose of Study

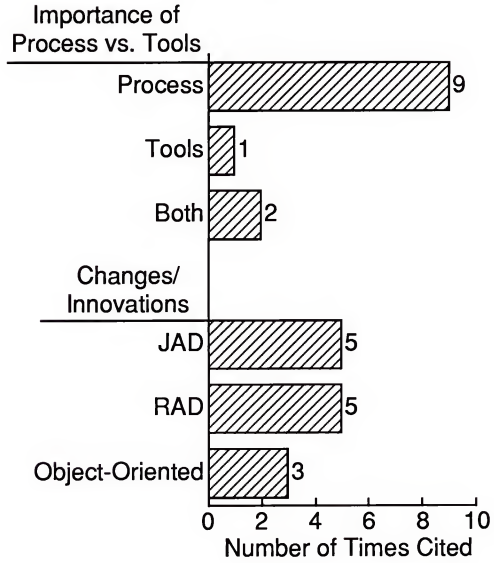
Understand Software Building Practices of Selected Vendors

- Changes/innovations
- Benefits of changes
- Importance of tools versus process
- Challenges
- Other organizations to watch (respondents' views)
- INPUT assessment of potential leaders

Study Methodology

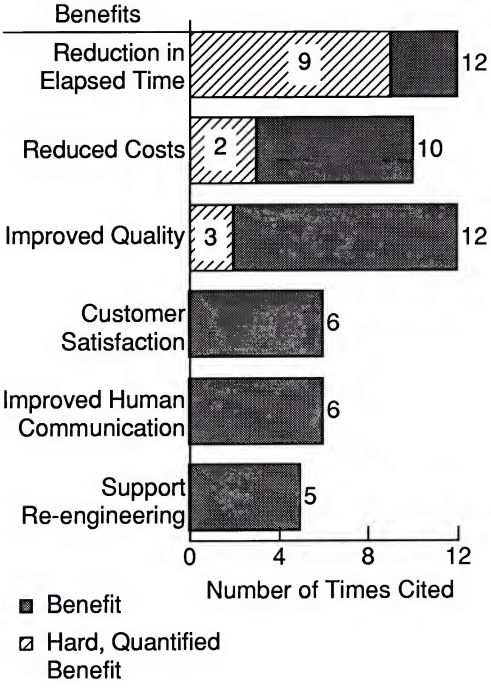
- INPUT/Andersen selected target companies
  - Borland
  - CAP Gemini
  - Cambridge Technology
  - D. Appleton & Co.
  - DEC
  - EDS
  - HP
  - IBM
  - Microsoft
  - Oracle
  - Texas Instruments
  - Xerox PARC
- Developed interview guide
- Multiple interviews; senior staff; two hours +

Development Changes/Approaches

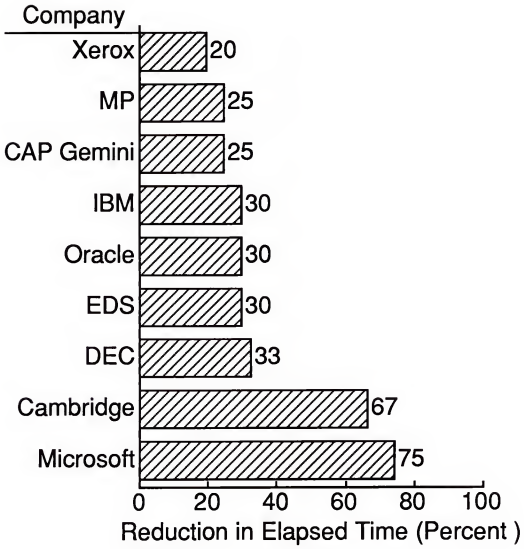


- Process is important
- CASE has not lived up to promise
- Lack of C/S model/tools

Benefits Cited



Reduction in Elapsed Time To Deliver



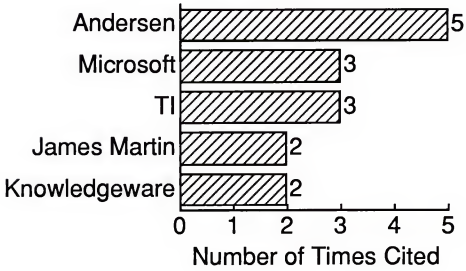
Challenges

- Bottlenecks
  - Skills, especially on "process" side
  - Lack of C/S model for allocating processing/data
- Conventional training good for technical skills. Deficiencies:
  - "Process" skills
  - Generalized C/S design
- A few firms are trying to formalize and speed up "learning through experience" (for JAD, C/S design)

Challenges (Cont.)

- Danger of overdependence on "99th Percentile" (superprogrammers or superanalysts)
- Overall absence of dedicated organizations for developing and disseminating software building improvements.
  - IBM and DEC are exceptions -- they have specialized units/laboratories
  - However, knowledge is not leveraged.
- INPUT's opinion on "breakthrough" criteria:
  - A replicable training process that makes "90th Percentile" people almost as effective as "99th Percentile" people

Organizations To Watch for Development Improvements (Cited in Interviews)



Cited Once

Borland	Motorola
Cambridge	Next
DEC	Raytheon
Hughes	USC/Software Engineering Institute
IBM	"Other Big 6"
Lotus	

- Relatively little concrete information
  - Lack of forums
  - Internally focused

INPUT Assessment of Leadership Organizations

EDS

- Bringing discipline and structure to process
  - Functions points
  - Overall metrics
- Object-oriented, data modeling

Microsoft

- Focus on relative few products
- Object-oriented/reuse strategy
- Developing C/S methodology
- Some metrics

INPUT Assessment of Leadership Organizations (Cont.)

Borland

- Focus on relatively few products
- Object-oriented/reuse
- High degree of management control
- Strength and weakness: "superprogrammers"

Xerox PARC/XSOFT

- Structure/discipline in process
- High degree of management control
- Metrics oriented: technical, customer satisfaction
- Potentially innovative C/S development approach

ORDER/INVOICE/FULFILLMENT

Acctg. ONLY

Inv. Comp.	By:	Date:	Client #	Order #	Inv. #	Multi-Invoicing of

CUSTOMER/INVOICE TO

ORIGINATOR (Signature) _____ DATE 7/23/93

APPROVALS: VP Sales/Res. _____ Date _____ Controller _____ Date _____

Company Andersen Consulting
Name Mr./Ms. Teresa Poggenpohl
Position _____
Address 69 W Washingta
_____
City Chicago
Province _____
Phone 312-507

CA Tax Rate _____
CT Tax 8% _____
Salutation _____
State _____
Zip _____
Country _____
Fax 312 507
Tlx _____

Special instructions for invoicing, progress billing, or delayed payments, etc.
Will send expenses after 7/29 & can bill then

ORDER

Contract Year Beg. _____ End _____

☐ New Order (N1) ☐ Prior Yr (N3)
☐ Renewal (N2) ☐ Cancel

Invoice Type ☐ Fulfillment Only ☐ W/Order (OR) ☐ Monthly (MO) ☐ Quarterly (QT) ☐ Pending

Employee # Sold by:	Employee # Commission to:
TA 100%	___ %
___ %	___ %
___ %	___ %

CLIENT AUTH.

PO# _____
Attach all authorizing documents to white (contract) copy.

INPUT Contract ☐ Letter ☒ Verbal ☐

SHIP TO

Company _____
Name Mr./Ms. Same
Position _____
Address _____
_____
City _____
Province _____
Salutation _____
State _____
Zip _____
Country _____
Phone _____

ITEM TYPE

- Subscription (SB)
- Custom (YC/ZC/KC)VC
- Multiclient (MC)
- Reports (RP)
- Copies (CP)
- Consult/Present (PR)
- Newsletter (NL)
- Reimbursed Costs (EX)
- Merger/Acq. (ME)
- Exec Overview (EO)
- Conf/Seminar (CN)

DETAIL

Indicate US, UK, FR, VA	Prod. ID/Year	Item Type Code	Item Description or Title	Quantity	Price	Shipped By	Date
US	YA5	YC	Add-on presentation		3,500		
			+ expenses				

Fulfillment to be completed in: ☐ Corporate ☐ London ☐ Virginia ☐ France ☐ Other _____

• White - Contract • Green - Fulfillment • Yellow - Invoice • Pink - Originator • Goldenrod - Sales Manager

M&S180 12/92

INPUT

ORDER/INVOICE/FULFILLMENT

Acctg. ONLY

Inv. Comp.	By:	Date:	Client #	Order #	Inv. #	Multi-Invoicing ___ of ___

CUSTOMER/INVOICE TO

ORIGINATOR (Signaure) [signature] DATE 5/10/93

Company Andersen Consulting
Name Mr./Ms. Teresa Poggenpohl
Position Poggenpohl 9
Address 69 W. Washington St
City Chicago IL
Province
Phone 312 507 2477

CA Tax Rate
CT Tax 8%
Salutation
State IL
Zip 60602
Country
Fax 312-507-8111
Tlx

APPROVALS
VP Sales/Res.
Date
Controller
Date

Special instructions for invoicing, progress billing, or delayed payments, etc.
£ up front

ORDER

Contract Year Beg.
End

❑ New Order (N1) ❑ Prior Yr (N3)
❑ Renewal (N2) ❑ Cancel

Invoice Type ❑ Fulfillment Only ❑ W/Order (OR) ❑ Monthly (MO) ❑ Quarterly (QT) ❑ Pending

Employee # Sold by: TCP 100 %
___ %
___ %

Employee # Commission to: ___ %
___ %
___ %

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Attach all authorizing documents to white (contract) copy.

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Salutation
State
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Phone

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- Conf/Seminar (CN)

DETAIL

Indicate US, UK, FR, VA	Prod. ID/Year	Item Type Code	Item Description or Title	Quantity	Price	Shipped By	Date
US	YA5	YC	Assessessing		$60,000		
			Trends in the				
			System Building				
			Process				
			+ 7K exp				

Fulfillment to be completed in: ❑ Corporate ❑ London ❑ Virginia ❑ France ❑ Other

• White - Contract • Green - Fulfillment • Yellow - Invoice • Pink - Originator • Goldenrod - Sales Manager

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AUTHORIZED BY:	ACCEPTED BY:
Andersen Consulting	INPUT
Theresa K. Poggenpohl	
Name	Name
Director of Mktg. Research	
Title	Title
5/11/93	
Date	Date

INVOICE

INPUT®

INPUT FEDERAL ID# 94-2385674

1280 Villa Street Mountain View, CA 94041 (415) 961-3300
Telex 171407 Fax (415) 961-3966

ATTENTION: Accounts Payable

TO

ANDERSEN CONSULTING
Teresa Poggenpohl
69 W. Washington Street
Chicago, IL 60602

(312) 507-2477

DATE	05/10/1993
INVOICE #	112335
PROJ. CODE	YCU..
SALES ORDER #	112582
PURCHASE ORDER #	

ORDER DESCRIPTION	AMOUNT
1 YA5-YC Custom - Andersen/Poggenpohl	60,000.00
Total Order Amount	$ 60,000.00

PROFESSIONAL FEE FOR CUSTOM CONSULTING
"ASSESSING TRENDS IN THE SYSTEM BUILDING
PROCESS OF SELECTED VENDORS"
FIRST HALF BILLING $30,000.00

AMOUNT INVOICED	$ 30,000.00

Thank You!

INV 6/88

05-10-1993 09:45AM FROM INPUT GRAPHICS/ACCTG TO W Y P.02

INPUT

Atrium at Glenpointe, 400 Frank W. Burr Blvd., Teaneck, NJ 07666 Tel. (201) 801-0050
Fax (201) 801-0441

July 22, 1993

Ms. Teresa Poggenpohl
Andersen Consulting

Via fax: 312-507-8111

Dear Teresa:

This will confirm our conversation yesterday where INPUT will prepare an additional summary and present it at the July 29 meeting in Chicago. I will work directly with MaryEllen McKee on this and keep you informed.

The fee will be $3,500 plus travel expenses.

I look forward to working on this project.

Sincerely,

Thomas O'Flaherty
Vice President

a:CUST8:YA5-ADD

PROJECT SCHEDULE

Week Anderson YAS

Activity	Name	Act. Days	Factor	ESD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Meet			TCR	1	1													
Q			TCR	1		1												
Tel Sr: 20@	1/4		?	6														
On-site	Cons		TCR	15		2	4	4	4									
Secondary Rec?				4		1	1		1	1								
An				2					1	1								
Prep prec (rpt ?)				3							2	1						
Rpt prep				3						2	1							
Pres				1								1						
TOTAL PLAN SR.																		
TOTAL PLAN RA																		
TOTAL PLAN ESDs				36														

Proj. Code: _____ Proj. Name: _____ Prepared by: TCR

Proj. Manager: _____ Date: 4/30

PROJECT WORK STATEMENT System Building Process

TITLE Assessing Trends in the

CLIENT Andersen

CONTRACT: ATTACHED X TO FOLLOW ____ LETTER ____ VERBAL ____

PROJECT LEADER TJR PROJECT CODE YAS

DATE STARTED May 5 PLANNED COMPLETION DATE July 15 93

LEVEL OF EFFORT(Professional Man Days) 36

TOTAL CONTRACT VALUE: $ or £ 60,000

REVENUE DISTRIBUTION (% or $) INPUT US 1' INPUT LTD ____

REIMBURSABLE EXPENSES: NO ____

YES X

EXP. BUDGET 7 TO COVER: TRAV: ✓
TELE: ✓
RPT. PREP.: ✓
OTHER: ____

BILLING SCHEDULE DESCRIPTION Standard

PROJECT DESCRIPTION To assess System building practices & processes (Current & planned) in 10-12 Vendors

INDICATE TYPE OF WORK: REPORT X PRESENTATION X

THANK YOU PACKAGE: YES X NO ____

ACCOUNTING USE ONLY: ENTERED ON CURRENT PROJECT LIST ____

DISTRIBUTI

CONTRACT FILE

LIBRARY FILE

NEW JERSEY

INPUT LTD.

TJR
Originator

SHEILA (Y&Z on

BINDER COPY

Date Typed